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REMARKS ON THE PANAMA CANAL AND THE INTRODUCTION OF YELLOW FEVER INTO ASIA

St. George Gray

The Journal of Tropical Medicine,
1903, 6.

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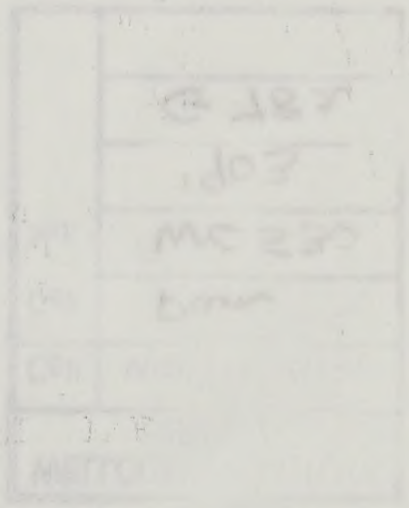

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mosquitoes get away after laying their eggs. Of course the larvæ never develop under the film of oil.

I do not wish anyone to imagine that I condemn the use of kerosene as a larvicide. There is no better known, and I use it freely for the purpose of keeping down the number of mosquitoes. I only wish to point out that it does not kill *all the adult insects* that come to lay their eggs on the surface of the water that has been treated with the oil, but that, although *some* are killed, more of them escape uninjured.

Had I used crude petroleum as a larvicide more adult mosquitoes would probably have been killed, but not having any at hand I used ordinary illuminating oil, which is less viscid. Where the breeding places of mosquitoes cannot be drained or filled in or otherwise made innocuous, we have no better larvicide than the cheapest petroleum.

REMARKS ON THE PANAMA CANAL AND THE INTRODUCTION OF YELLOW FEVER INTO ASIA.

By St. George Gray, M.B.

Sierra Leone.

In his article on "Mosquitoes and Steamers" in the Journal of Tropical Medicine, August 15th, 1903, Dr. Andrew Balfour has called attention to my omission, in my observations on the Panama Canal and the Introduction of Yellow Fever into Asia, to include the steamers themselves as possible breeding places of *Stegomyia fasciata*. He says, "neither he, nor, as far as I am aware, any other writer, has, however, pointed out that steamers may themselves serve as breeding places for stegomyia."

I confess that this omission was entirely due to oversight on my part. I was aware that steamers might serve as breeding places of mosquitoes, for I have myself on several occasions examined the water tanks of steamers for mosquito larvæ and more than once found larvæ of stegomyia in them. Some of these steamers, moreover, had come from Brazil, where yellow fever is, apparently, a fixture.

Theobald, in his "Monograph of the Culicidæ of the World," vol. i., page 82, states: "They (mosquitoes) may also be spread in the larval stage in ships' tanks, especially formerly; by such means we can readily see how certain forms have spread over a large part of the globe, and we can thus account for such anomalies as that shown by species which are found in widely separated localities, when those localities are bordering the sea."

About two years ago (I am uncertain of the date, as I have not access to a file of the journal just now), I saw a letter in one of the medical journals, I think it was the *British Medical Journal*, written by a passenger on one of the West African steamers, in which, the writer states that he found larvæ of stegomyia in the wash-hand basin in his cabin.

As the bilgewater of ocean steamers contains a considerable proportion of salt water, I do not think it probable that it would serve as a breeding ground for mosquitoes in the same way as the bilges of river steamers do. Nevertheless it should not be overlooked, and I am of one mind with Dr. Balfour in considering that "the destruction of the mosquito in any of its stages is a necessary measure."

With regard to Dr. Balfour's question as to whether or not the organism of yellow fever can be transmitted by the female imago to her offspring, I may be permitted to quote further from Dr. Guiteras' article on "Experimental Yellow Fever," in which he says "The second problem refers to the transmission of the infection to the progeny of the mosquito. With respect to this question I can report two experiments with negative results. The progeny of the insect that infected Vergara (Case 2 of the table) was kept in a separate jar and was tried without results upon three non-immunes. The large brood from the mosquito of Alvarez (all infected) was transferred to the breeding jars and there have fed upon non-immunes with impunity."

From this negative evidence it appears unlikely that the infected female mosquito transmits the infection of yellow fever to her offspring.

My suggestions were not meant as a fixed guide for the prevention of yellow fever, from which there could be no deviation, but merely an outline of precautions to be taken, which no doubt could be vastly improved upon by a committee of experts. In any case nothing should be left undone that will aid in the keeping of this scourge from the densely crowded cities of the East.

The fact of the Colombian Senate having rejected the Panama Canal Treaty, by no means lessens the danger, for under the "Spooner Act," the President of the United States was directed, should the Panama scheme fail, to proceed at once to negotiate with Nicaragua and Costa Rica with a view to the construction of a canal by the Nicaraguan route; and President Roosevelt is not the man to let the grass grow under his feet, if one may judge from the accounts we read of his doings in the newspapers.

The danger is only postponed for a while by the action, or rather inaction, of Colombia, that is all.

September, 1903.

NOTES ON THE CULICIDÆ OF DEHRA DUN.

With a Description of a new Mansonia, which mimics Anopheles.

By Major F. Wyville Thomson, I.M.S., 2nd Goorkhas.

Communicated by Lieut.-Col. G. M. Giles, I.M.S., Retd.

In forwarding this interesting communication Colonel Giles in a letter to the Editors, remarks :—

As the spotted wing Culicinæ are rather a trap to the unwary, I think it would be advantageous to publish a description of the following very curious species, which is quite different from anything at all near it, and is remarkably like some of the true Anophelines.

The following notes, sent me by my brother officer, Major Wyville Thomson, are of some interest, as they come from the foothills of the Himalayan range,